

PTC-101-M12 Series

IEC 61850-3 and railway Ethernet-to-fiber media converters



Features and Benefits

- 10/100BaseT(X) auto-negotiation and auto-MDI/MDI-X
- Link Fault Pass-Through (LFPT)
- Power failure alarm by relay output (LV model only)
- -40 to 85°C operating temperature range
- Redundant dual DC power inputs (LV model only)
- Integrated high-reliability power supply eliminates the need for external power transformer
- Compliant with EN 50121-4
- Complies with all EN 50155 mandatory test items¹

Certifications



EN 50155



EN 50121-4



Introduction

The PTC-101 Ethernet-to-fiber media converters convert from 10/100BaseT(X) to 100BaseFX. Models are available with either SC, ST, or LC connectors. The PTC-101 converters eliminate the need for additional wiring, and support IEEE 802.3 and IEEE 802.3u/x protocols with 10/100M, full/half-duplex, and MDI/MDI-X auto-sensing to provide a total solution for your industrial Ethernet networks. The PTC-101 is compliant with mandatory sections of EN 50155, covering operating temperature, power input voltage, surge, ESD, and vibration, as well as conformal coating and power insulation, making the switches suitable for a variety of industrial applications.

Specifications

Ethernet Interface

| | |
|---|----------------------------|
| 10/100BaseT(X) Ports (M12 D-coded 4-pin female connector) | 1 |
| 100BaseFX Ports (single-mode SC connector) | PTC-101-M12-S-SC Series: 1 |
| 100BaseFX Ports (single-mode ST connector) | PTC-101-M12-S-ST Series: 1 |

1. This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For a more detailed statement, click here: www.moxa.com/doc/specs/EN_50155_Compliance.pdf

| | | |
|-------------------------------|--|-------------|
| Magnetic Isolation Protection | 1.5 kV (built-in) | |
| Optical Fiber | | 100BaseFX |
| | | Single-Mode |
| | Wavelength | 1310 nm |
| | Max. TX | 0 dBm |
| | Min. TX | -5 dBm |
| | RX Sensitivity | -34 dBm |
| | Link Budget | 29dB |
| | Typical Distance | 40 km |
| | Saturation | -3 dBm |
| | a. 50/125 μ m, 800 MHz x km fiber optic cable. | |

Power Parameters

| | |
|-----------------------------|-----------------------|
| Input Current | 150 mA @ 20 to 72 VDC |
| Input Voltage | 20 to 72 VDC |
| Overload Current Protection | Supported |
| Power Consumption | 150 mA @ 20 to 72 VDC |

Physical Characteristics

| | |
|--------------|--|
| Housing | Metal |
| Dimensions | 152.15 x 126.46 x 66.65 mm (5.99 x 4.86 x 2.62 in) |
| Weight | Packaged: 875 g (1.92 lb) Product only: 690 g (1.52 lb) |
| Installation | DIN-rail mounting |
| Protection | -CT models: PCB conformal coating |

Environmental Limits

| | |
|--|----------------------------|
| Operating Temperature | -40 to 85°C (-40 to 185°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F) |
| Ambient Relative Humidity | 5 to 95% (non-condensing) |

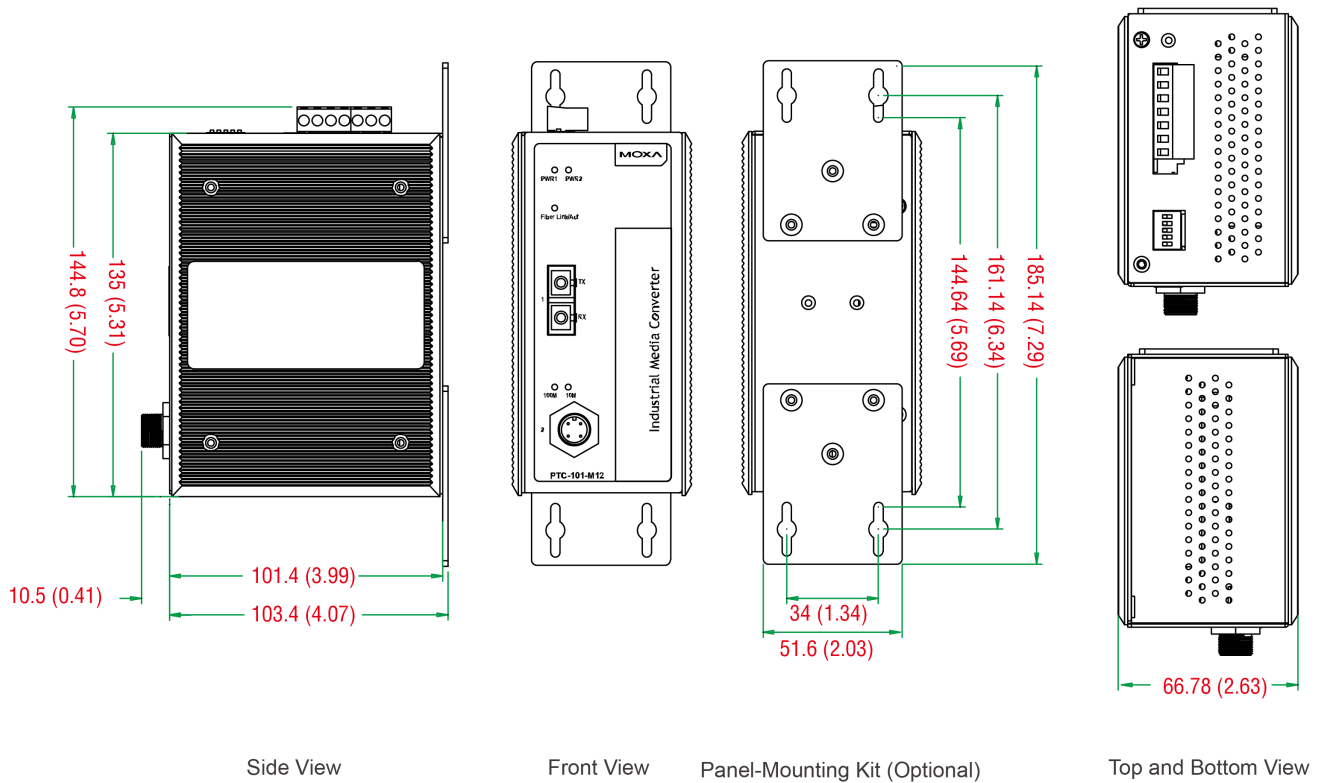
Standards and Certifications

| | |
|-----------------------|---|
| EMC | EN 55032/24 |
| EMI | CISPR 32, FCC Part 15B Class A |
| EMS | IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 |
| Environmental Testing | IEC 60068-2-1 IEC 60068-2-14 IEC 60068-2-2 IEC 60068-2-3 |

| | |
|------------------|--|
| Safety | EN 60950-1, UL 60950-1 |
| Vibration | IEC 60068-2-6 |
| MTBF | |
| Time | 1,211,613 hrs |
| Standards | MIL-HDBK-217F |
| Warranty | |
| Warranty Period | 5 years |
| Details | See www.moxa.com/warranty |
| Package Contents | |
| Device | 1 x PTC-101-M12 Series media converter |
| Documentation | 1 x quick installation guide 1 x warranty card |

Dimensions

Unit: mm (inch)



Ordering Information

| Model Name | Fiber Module Type | Conformal Coating |
|--------------------------|-------------------|-------------------|
| PTC-101-M12-S-SC-LV-T | Single-mode SC | - |
| PTC-101-M12-S-ST-LV-T | Single-mode ST | - |
| PTC-101-M12-S-SC-LV-CT-T | Single-mode SC | ✓ |
| PTC-101-M12-S-ST-LV-CT-T | Single-mode ST | ✓ |

Accessories (sold separately)

DIN-Rail Mounting Kits

DK-DC50131

DIN-rail mounting kit

Wall-Mounting Kits

WK-51-01

Wall mounting kit with 2 plates (51.6 x 67 x 2 mm) and 6 screws

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